

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (currently amended): An abrasive flap disc comprising:

a disc-shaped backing plate, and

an annular array of flaps of abrasive material arranged on the backing plate and bonded thereto along the lowermost an edge of each flap which extends from a radially inner to a radially outer part of the backing plate,

wherein each flap at least in a radially outer region, is substantially spaced from each adjacent flap with no element therebetween such that the flaps have freedom to flex and conform to an underlying surface in use.

2. (original): An abrasive flap disc as claimed in claim 1, wherein each flap does not contact an adjacent flap at all.

3. (original) An abrasive flap disc as claimed in claim 1, wherein each flap contacts an adjacent flap along its radially inner edge.

4. (currently amended): An abrasive flap disc as claimed in claim 1, wherein [the] an angle between the backing plate and each flap is in the range of approximately 20° to approximately 90°.

5. (original): An abrasive flap disc as claimed in claim 4, wherein the angle between the backing plate and each flap is in the range of approximately 40° to approximately 70°.

6. (currently amended): An abrasive flap disc as claimed in claim 1, wherein a center line of each flap, which extends between its radially inner and outer edges, is substantially on parallel to a radius of the backing plate.

7. (currently amended): An abrasive flap disc as claimed in claim 1, wherein the a centerline of each flap, which extends between its radially inner and outer edges, is at an angle relative to a radius of the backing plate.
8. (currently amended): An abrasive flap disc as claimed in claim 7, wherein the an angle between each flap center line and a radius of the backing plate is in the range of approximately between 5° to approximately 85°.
9. (original): An abrasive flap disc as claimed in claim 8, wherein the angle between each flap center line and a radius of the backing plate is in the range of approximately between 30° to approximately 60°.
10. (previously presented): An abrasive flap disc as claimed in claim 1, wherein the flaps comprise abrasive grit bonded to a backing material.
11. (previously presented): An abrasive flap disc as claimed in claim 1, wherein the backing plate includes means to attach the disc to a drive mechanism.
12. (currently amended): A method of producing an abrasive flap disc of the type set out in claim 1, comprising the steps of:
 - providing a disc-shaped backing plate;
 - providing an adhesive on an upper a surface of the backing plate;
 - rotating the backing plate incrementally;
 - at each incremental step, feeding the end of a strip of abrasive material on to the adhesive on the backing plate;
 - severing the end of the strip to form a flap;
 - repeating the process steps of rotating, feeding and severing until an annular array of flaps is formed on the backing plate with each flap at least in a radially outer region, being spaced from each adjacent flap;

maintaining the flaps in the spaced position; and
curing the adhesive to secure the flaps to the backing plate.

13. (previously presented): A method of producing an abrasive flap disc as claimed in claim 12, wherein after constructing the array of flaps and before curing, the method further includes the step of placing the disc in a former adapted to prevent each flap falling into substantial contact with an adjacent flap.

14. (previously presented): A method of producing an abrasive flap disc as claimed in claim 13, wherein the former includes a cylindrical wall dimensioned to encircle the disc and prevent each flap falling substantial contact with an adjacent flap.

15. (previously presented): A method of producing an abrasive flap disc as claimed in claim 13, wherein a spoke-shaped frame is placed with a spoke positioned between adjacent flaps to prevent each flap falling into substantial contact with an adjacent flap.

16. (currently amended): A method of producing an abrasive flap disc as claimed in claim 12, comprising the step of feeding the strip of abrasive material such that each flap has a centerline extending from its radially inner to its radially outer edge which is substantially on parallel to a radius of the backing plate.

17. (currently amended): A method of producing an abrasive flap disc as claimed in claim 12, comprising the step of feeding the strip of abrasive material such that each flap has a center line extending from its radially inner to its radially outer edge and which is at an angle to a radius of the backing plate.

18. (currently amended): A method of producing an abrasive flap disc, comprising the steps of:
providing a disc-shaped backing plate;
providing an adhesive on an upper surface of the backing plate;

rotating the backing plate incrementally;
at each incremental step, feeding the end of a strip of abrasive material on to the adhesive on the backing plate;
severing the end of the strip to form a flap;
repeating the process steps of rotating, feeding and severing until an annular array of flaps is formed on the backing plate with each flap, at least in a radially outer region, being spaced from each adjacent flap;
maintaining the flaps in the spaced position; and
curing the adhesive to secure the flaps to the backing plate.

19. (previously presented): A method of producing an abrasive flap disc as claimed in claim 18, wherein after constructing the array of flaps and before curing, the method further includes the step of placing the disc in a former adapted to prevent each flap from falling into substantial contact with an adjacent flap.

20. (previously presented): A method of producing an abrasive flap disc as claimed in claim 18, comprising the step of feeding the strip of abrasive material such that each flap has a center line extending from its radially inner to outer edge and which is at an angle relative to a radius of the backing plate.

21. (new): An abrasive flap disc comprising:

a disc-shaped backing plate, and
an annular array of flaps of abrasive material arranged on the backing plate and bonded thereto along an edge of each flap which extends from a radially inner to a radially outer part of the backing plate,
wherein each flap at least in a radially outer region, is substantially spaced from each adjacent flap with no element therebetween such that the flaps have freedom to flex and conform to an underlying surface in use, wherein each flap contacts an adjacent flap on its radially inner edge.

22. (new): A method of producing an abrasive flap disc comprising a disc-shaped backing plate, and

an annular array of flaps of abrasive material arranged on the backing plate and bonded thereto along an edge of each flap which extends from a radially inner to a radially outer part of the backing plate,

wherein each flap at least in a radially outer region, is substantially spaced from each adjacent flap with no element therebetween such that the flaps have freedom to flex and conform to an underlying surface in use, the method comprising:

providing a disc-shaped backing plate;

providing an adhesive on a surface of the backing plate;

rotating the backing plate incrementally;

at each incremental step, feeding the end of a strip of abrasive material on to the adhesive on the backing plate;

severing the end of the strip to form a flap;

repeating the steps of rotating, feeding and severing until an annular array of flaps is formed on the backing plate with each flap at least in a radially outer region, being spaced from each adjacent flap;

maintaining the flaps in the spaced position; and

curing the adhesive to secure the flaps to the backing plate.

23. (new) A method of producing an abrasive flap disc as claimed in claim 22, wherein after constructing the array of flaps and before curing, the method further includes the step of placing the disc in a former adapted to prevent each flap falling into substantial contact with an adjacent flap.

24. (new): A method of producing an abrasive flap disc as claimed in claim 23, wherein the former includes a cylindrical wall dimensioned to encircle the disc and prevent each flap falling substantial contact with an adjacent flap.

25. (new): A method of producing an abrasive flap disc as claimed in claim 23, wherein a spoke-shaped frame is placed with a spoke positioned between adjacent flaps to prevent each flap falling into substantial contact with an adjacent flap.

26. (new) A method of producing an abrasive flap disc as claimed in claim 22, comprising the step of feeding the strip of abrasive material such that each flap has a centerline extending from its radially inner to its radially outer edge which is substantially [on] parallel to a radius of the backing plate.

27. new): A method of producing an abrasive flap disc as claimed in claim 22, comprising the step of feeding the strip of abrasive material such that each flap has a center line extending from its radially inner to its radially outer edge which is at an angle to a radius of the backing plate.